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Commissioner

**North Carolina Department of Agriculture  
and Consumer Services**  
*Plant Industry Division*

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Seed and Fertilizer  
Administrator

## Total THC Test Report

### Sample Submitted By:

NCDA&CS Plant Industry Division  
216 West Jones Street  
Raleigh, NC 27603

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Date of Sample Submission: 1/24/2019

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Sample ID: SEM-NC0159-03-59

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Grower/Applicant Name: Brad V Martin

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License Number: 159

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Variety: CHERRY MOM

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Comments:

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### Final Report

Total Delta-9 ( $\Delta^9$ ) THC (%): **0.18**

Approved By: Paul R. Adams

Date: **2/7/2019**

Certificate ID: **50390**

 Received: **3/11/19**

 Scan QR Code  
 for authenticity

 Client Sample ID: **AS-HempGen**

 Lot Number: **02**

 Matrix: **Flowers/Bud - Dry**

 Authorization:  
**Jon Podgorni, Lab Manager**

Signature:

Date:

**3/26/2019**


The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2005. I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

**CN: Cannabinoid Profile & Potency [WI-10-17 & WI-10-17-01]**
**Analyst: LG**
**Test Date: 3/25/2019**

The client sample was analyzed for plant-based cannabinoids by Liquid Chromatography (LC). The collected data was compared to data collected for certified reference standards at known concentrations.

**50390-CN**

ID	Weight %	Conc.	
D9-THC	0.08 wt %	0.84 mg/g	
THCV	ND	ND	
CBD	0.74 wt %	7.44 mg/g	
CBDV	ND	ND	
CBG	ND	ND	
CBC	0.06 wt %	0.63 mg/g	
CBN	ND	ND	
THCA	0.60 wt %	6.00 mg/g	
CBDA	19.08 wt %	190.84 mg/g	
CBGA	0.67 wt %	6.66 mg/g	
D8-THC	ND	ND	
exo-THC	ND	ND	
Total	21.24 wt%	212.41 mg/g	0%      Cannabinoids (wt%)      19.1%
Max THC	0.61 wt%	6.10 mg/g	
Max CBD	17.48 wt%	174.80 mg/g	

**Ratio of Total CBD to THC 28.7:1**

Max THC (and Max CBD) are calculated values for total cannabinoids after heating, assuming complete decarboxylation of the acid to the neutral form. It is calculated based on the weight loss of the acid group during decarboxylation: Max THC =  $(0.877 \times \text{THCA}) + \text{THC}$ . This calculation does not include other cannabinoid isomers (eg. D8-THC and exo-THC). ND = None detected above the limits of detection (LLD)

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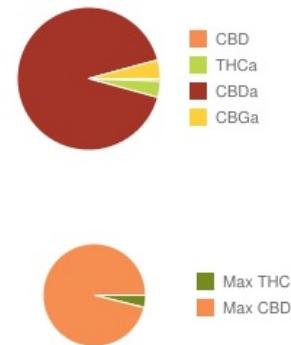


#### Test report: Flower Sample

Client:	<a href="#">Green River Botanicals</a>
Client contact:	
Strain:	<a href="#">unknown</a>
Sample Type:	Flower
Batch:	NA
Analyst:	AL
Authorization:	MK
Product ID:	S19-00071
Receipt Date:	1/2/2019
Test Date:	01/03/2019

## Cannabinoid Profile

Cannabinoid	%
THC	Not detected
CBD	0.1%
CBN	Not detected
THCa	0.7%
CBDa	17.3%
Δ-8 THC	Not detected
CBGa	0.8%
THCv	Not detected
CBDv	Not detected
CBC	Not detected
Total Cannabinoids	18.90%
Max THC	0.61%
Max CBD	15.24%



Percentage data represents weight percentage of sample as received by MCR Labs.

THCa is converted to THC by heat. To find the maximum theoretical amount of THC in a sample, we add the amount of THC present in the sample to the amount of THC that can be created from THCa by the formula:

$$\text{Max THC} = \text{THC} + \text{THCa} * 0.877$$

The maximum theoretical amount of CBD in a sample is calculated from CBD and CBDa in a similar fashion.

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# Terpene Profile

Terpene	Test Results
α-Pinene	Not detected
Camphene	0.03%
β-Myrcene	0.81%
β-Pinene	0.08%
δ-3-Carene	Not detected
α-Terpinene	Not detected
Ocimene	Not detected
δ-Limonene	0.18%
ρ-Cymene	0.03%
β-Ocimene	Not detected
Eucalyptol	Not detected
γ-Terpinene	Not detected
Terpinolene	0.03%
Linalool	0.08%
Isopulegol	Not detected
Geraniol	0.03%
β-Caryophyllene	0.04%
α-Humulene	0.04%
Nerolidol 1	0.06%
Nerolidol 2	0.04%
Guaiol	0.02%
Caryophyllene Oxide	0.06%
α-Bisabolol	0.04%
Total	1.57%

Total Analytes | 20.47%

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**Analytical Test Report**

<b>Client:</b> Green River Botanicals	<b>Final Report</b>  Report Date:	<b>MCR-S1900071 Rev.01.00</b>  15 JANUARY 2019	<b>Laboratory:</b> MCR Labs 85 Speen St. Lower Level Framingham, MA 01701 508-872-6666
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Sample ID #	Sample Name	Batch	Matrix	Date Received	Date Tested	Sample Weight
MCR-S19-00071	Flower Sample	N/A	Flower	2 January 2019	03-15 January 2019	N/A

The test results presented in this report are accurate, complete, and compliant with the MCR Labs quality control criteria.

**Requested Testing:**

Test	Code	Procedure	Analytes Tested
Microbiological Screen	MB	MCR-TM-0006	Bacterial (Total Aerobic, Total Coliform, Bile-Tolerant Gram Negative), Yeast and Mold, Pathogenic (E. coli, Salmonella)
Mycotoxin Screen	MY	MCR-TM-0013	Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2, Ochratoxin A
Heavy Metals Screen	HM	MCR-TM-0008	Arsenic (As), Cadmium (Cd), Lead (Pb), Mercury (Hg)
Pesticides Screen	PS	MCR-TM-0009	Bifenazate, Bifenthrin, Cyfluthrin, Etoxazole, Imazalil, Imidacloprid, Myclobutanil, Spiromesifen, Trifloxystrobin

**Microbiological Screen [MCR-TM-0006]**

Analyst: PS/VB

Test Date: 11-14 Jan 19

The sample was analyzed for microbiological contaminants via an automated Most Probable Number (MPN) methodology with cultured enrichments.

Test ID	Test Analysis	Results	Unit	Limits
19-00071-AC	Total Viable Aerobic Bacteria	=2.1 x 10 <sup>2</sup>	CFU/g	10 <sup>5</sup> CFU/g
19-00071-YM	Total Yeast and Mold	=6.3 x 10 <sup>3</sup>	CFU/g	10 <sup>4</sup> CFU/g
19-00071-CC	Total Coliforms	<100	CFU/g	10 <sup>3</sup> CFU/g
19-00071-EB	Total Bile-Tolerant Gram Negative Bacteria	<100	CFU/g	10 <sup>3</sup> CFU/g

Note: CFU = colony forming unit. Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.

**Pathogenic Bacterial Screen [MCR-TM-0006]**

Analyst: DO

Test Date: 15 Jan 19

The sample was analyzed for pathogenic bacterial contamination via an automated Enzyme Linked Fluorescent Assay (ELFA).

Test ID	Test Analysis	Result	Units	Limits
19-00071-ECPT	<i>E. coli</i> (O157)	Negative	N/A	Not Detected in 1 g
19-00071-SPT	<i>Salmonella</i>	Negative	N/A	Not Detected in 1 g

Note: Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6. NT = Not tested.

**Mycotoxin Screen [MCR-TM-0013]**

Analyst: WS/SG/JW

Test Date: 04 Jan 19

The sample was analyzed via Liquid Chromatography - Tandem Mass Spectrometry (LC-MS/MS). The collected data was compared to data collected from analytical reference standards at known concentrations.

Test ID	Test Analysis	Result	LOD (ppb)	Limits (ppb)
19-00071-MY	Mycotoxin	Negative	20	20

Note: ND = Not Detected; LOD = Limit of Detection; ppb = part per billion. Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.

**Heavy Metals Screen [MCR-TM-0008]**

Analyst: WS

Test Date: 04 Jan 19

The sample was analyzed via Inductively Coupled Plasma Mass Spectrometry. The collected data was compared to data collected from certified analytical reference standards at known concentrations.

Test ID	Test Analysis	Result, ppb	LOD ppb	LOQ ppb	Limits ppb
19-00071-HM	Arsenic	ND	28.5	86.2	200
19-00071-HM	Cadmium	BQL	24.7	74.8	200
19-00071-HM	Mercury	ND	18.3	55.5	100
19-00071-HM	Lead	ND	15.4	46.8	500

Note: ND = Not Detected; LOD = Limit of Detection; LOQ = Limit of Quantitation; BQL = Below Quantitation Limit; ppb = part per billion. Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 4.

**Pesticides Screen [MCR-TM-0009]**

Analyst: WS/SG

Test Date: 04 Jan 19

The sample was analyzed via Liquid Chromatography - Tandem Mass Spectrometry (LC-MS/MS). The collected data was compared to data collected from analytical reference standards at known concentrations.

Test Analysis	Result, ppb	LOD ppb	LOQ ppb	Limits ppb
Bifenazate	ND	250	825	10
Bifenthrin	ND	40	132	10
Cyfluthrin	ND	3000	9900	10
Etoxazole	ND	60	198	10
Imazalil	ND	40	132	10
Imidacloprid	ND	10	33	10
Myclobutanil	ND	10	33	10
Spiromesifen	ND	100	330	10
Trifloxystrobin	ND	10	33	10

Note: ND = Not Detected; LOD = Limit of Detection; LOQ = Limit of Quantitation; ppb = part per billion; N/A = not available. Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 5.

END OF REPORT